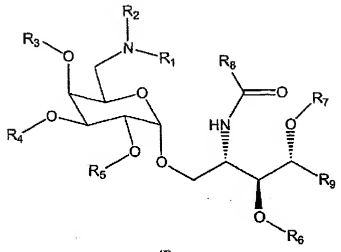
CLAIMS

The following set of claims replaces all the previous set of claims.

1. (Original) A compound of Formula (I):



(I)

wherein,

R_1 is:

(i) hydrogen; or

(ii) $-SO_2R_{10}$,

(iii) wherein R_{10} is:

halo; hydroxy; OR_{11}; OR_{12}; amino; NHR_{11}; $N(R_{11})_2$; NHR_{12}; $N(R_{12})_2$; aralkylamino; or

C_1-C_{12} alkyl optionally substituted with halo, hydroxy, oxo, nitro, OR_{11}, OR_{12}, acyloxy, amino, NHR_{11}; $N(R_{11})_2$; NHR_{12}; $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSO_2R_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, C_3-C_{10} cycloalky containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl containing 0-3 R_{14}, or heteroaryl containing 0-3 R_{14}; or

C_3-C_{10} cycloalkyl, C_3-C_{10} heterocyclyl, C_5-C_{10} cycloalkenyl, or C_5-C_{10} heterocycloalkenyl optionally substituted with one or more halo, hydroxy, oxo, OR_{11}, OR_{12}, acyloxy, nitro, amino, NHR_{11}, $N(R_{11})_2$, NHR_{12}, $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSO_2R_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, alkyl, haloalkyl, C_3-C_{10} cycloalkyl containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl heteroaryl containing 0-3 R_{14}, or C_6-C_{20} heteroaryl containing 0-3 R_{14}; or

C_2-C_6 alkenyl, C_2-C_6 alkynyl, aryl, or heteroaryl optionally substituted with one or more halo, hydroxy, OR_{11}, OR_{12}, acyloxy, nitro, amino, NHR_{11}, $N(R_{11})_2$, NHR_{12}, $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSO_2R_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, alkyl, haloalkyl, C_3-C_{10} cycloalkyl containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl containing 0-3 R_{14}, or C_6-C_{20} heteroaryl containing 0-3 R_{14}; or

(iii) $-C(O)R_{10}$, wherein R_{10} is defined as above; or

(iv) $-C(R_{10})_2(R_{15})$, wherein R_{10} is defined as above; R_{15} is hydrogen, R_{10}, or R_{15} and R_2 taken together forms a double bond between the carbon and nitrogen atoms to which they are attached; ~~or~~

(v) R_1 and R_2 taken together forms a heterocyclyl of 3-10 ring atoms optionally substituted with R_{10};

R_2 is hydrogen, or R_2 and R_{15} taken together forms a double bond between the carbon and nitrogen atoms to which they are attached, or R_2 and R_1 taken together forms a heterocyclyl of 3-10 ring atoms optionally substituted with R_{10};

R_3, R_4, R_5, R_6 and R_7 are each independently hydrogen, C_1-C_6 alkyl, C_6-C_{12} aralkyl, or C_1-C_6 acyl;

R_8 is $-(CH_2)_xCH_3$;

R_9 is a linear or branched C_3-C_{100} alkyl;

R_{11} is C_1-C_{20} alkyl optionally substituted with halo, hydroxy, alkoxy, amino, alkylamino, dialkylamino, sulfate, or phosphate;

R_{12} is aryl optionally substituted with halo, haloalkyl, hydroxy, alkoxy, nitro, amino, alkylamino, dialkylamino, sulfate, or phosphate;

Each R_{13} is independently halo, halo alkyl, hydroxy, alkoxy, oxo, amino, alkylamino, dialkylamino, sulfate, or phosphate;

Each R_{14} is independently halo, halo alkyl, hydroxy, alkoxy, nitro, amino, alkyl amino, dialkylamino, sulfate, or phosphate; and

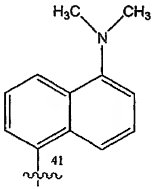
x is 1-100.

2. (Original) The compound of claim 1 wherein x is 24 and R_9 is *n*-tetradecyl.

3. (Original) The compound of claim 2 wherein R_1 is SO_2R_{10}.

4. (Original) The compound of claim 3 wherein R_{10} is aryl substituted with $N(R_{11})_2$;

5. (Original) The compound of claim 4 wherein R_{10} is:

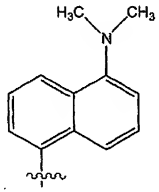


6. (Original) The compound of claim 2 wherein R_1 is $C(O)R_{10}$.

7. (Amended) The compound of claim 6 wherein R_{10} is C_1-C_6 alkyl substituted with halo, hydroxy, oxo, nitro, OR_{11}, OR_{12}, acyloxy, amino, NHR_{11}, $N(R_{11})_2$, NHR_{12}, $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSO_2R_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, C_3-C_{10} cycloalkyl containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl containing 0-3 R_{14}, or C_6-C_{20} heteroaryl containing 0-3 R_{14}[[;]].

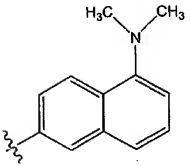
8. (Original) The compound of claim 7 wherein R_{10} is C_1-C_6 alkyl substituted with $NHSO_2R_{12}$.

9. (Original) The compound of claim 8 wherein R_{12} is:



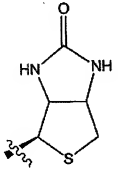
10. (Original) The compound of claim 7, wherein R_{10} is alkyl substituted with $C(O)R_{12}$.

11. (Original) The compound of claim 10 wherein R_{12} is:



12. (Original) The compound of claim 7 wherein R_{10} is alkyl is substituted with C_5-C_{10} heterocyclyl containing 0-3 R_{13}.

13. (Original) The compound of claim 12 wherein the heterocyclyl is:



14. (Cancelled).

15. (Cancelled).

16. (Cancelled).

17. (Cancelled).

18. (Original) A method of stimulating NKT cells comprising contacting an NKT cell with a compound of Formula (I) and a CD1 protein.

19. (Original) The method of claim 18 wherein the protein is CDld.

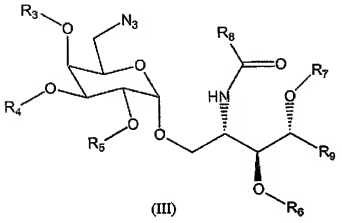
20. (Cancelled).

21. (Cancelled).

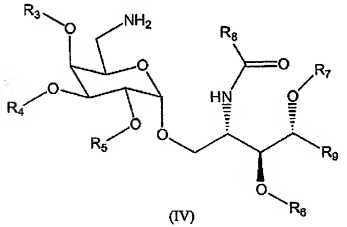
22. (Cancelled).

23. (Cancelled).

24. (Original) A method of making a compound of Formula (I) comprising: (i) converting a compound of Formula (III) to a compound of Formula (IV):



(III)



(IV)

and (ii) contacting a compound of Formula (IV) with R_1-LG to afford a compound of Formula (I), wherein:

R_1 is:

(i) $-SO_2R_{10}$,

wherein R_{10} is:

halo; hydroxy; OR_{11}; OR_{12}; amino; NHR_{11}; $N(R_{11})_2$; NHR_{12}; $N(R_{12})_2$; aralkylamino; or

C_1-C_{12} alkyl optionally substituted with halo, hydroxy, oxo, nitro, OR_{11}, OR_{12}, acyloxy, amino, NHR_{11}, $N(R_{11})_2$, NHR_{12}, $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSO_2R_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, C_3-C_{10} cycloalkyl containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl containing 0-3 R_{14}, or C_6-C_{20} heteroaryl containing 0-3 R_{14}; or

C_3-C_{10} cycloalkyl, C_3-C_{10} heterocyclyl, C_5-C_{10} cycloalkenyl, or C_5-C_{10} heterocycloalkenyl optionally substituted with one or more halo, hydroxy, oxo, OR_{11}, OR_{12}, acyloxy, nitro, amino, NHR_{11}, $N(R_{11})_2$, NHR_{12}, $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSO_2R_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, alkyl, halo alkyl, C_3-C_{10} cycloalkyl containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl containing 0-3 R_{14}, or C_6-C_{20} heteroaryl containing 0-3 R_{14}; or

C_2-C_6 alkenyl, C_2-C_6 alkynyl, aryl, or heteroaryl optionally substituted with one or more halo, hydroxy, OR_{11}, OR_{12}, acyloxy, nitro, amino, NHR_{11}, $N(R_{11})_2$, NHR_{12}, $N(R_{12})_2$, aralkylamino, mercapto, thioalkoxy, $S(O)R_{11}$, $S(O)R_{12}$, SO_2R_{11}, SO_2R_{12}, $NHSOR_{11}$, $NHSO_2R_{12}$, sulfate, phosphate, cyano, carboxyl, $C(O)R_{11}$, $C(O)R_{2\,12}$, $C(O)OR_{11}$, $C(O)NH_2$, $C(O)NHR_{11}$, $C(O)N(R_{11})_2$, alkyl, halo alkyl, C_3-C_{10} cycloalkyl containing 0-3 R_{13}, C_3-C_{10} heterocyclyl containing 0-3 R_{13}, C_2-C_6 alkenyl, C_2-C_6 alkynyl,. C_5-C_{10} cycloalkenyl, C_5-C_{10} heterocycloalkenyl, C_6-C_{20} aryl containing 0-3 R_{14}, or C_6-C_{20} heteroaryl containing 0-3 R_{14}; or

(ii) $-C(O)R_{10}$, wherein R_{10} is defined as above; or

(iii) -$C(R_{10})_2$ (R_{15}), wherein R_{10} is defined as above; R_{15} is hydrogen, R_{10}, or R_{15} and R_2 taken together forms a double bond between the carbon and nitrogen atoms to which they are attached; or

R_3, R_4, R_5, R_6, and R_7 are each independently hydrogen, C_1-C_6 alkyl, C_6-C_{12} aralkyl, or C_1-C_6 acyl;

R_8 is $-(CH_2)_xCH_3$;

R_9 is a linear or branched C_3-C_{100} alkyl;

R_{11} is C_1-C_{20} alkyl optionally substituted with halo, hydroxy, alkoxy, amino, alkylamino, dialkylamino, sulfate, or phosphate;

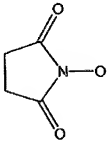
R_{12} is aryl optionally substituted with halo, halo alkyl, hydroxy, alkoxy, nitro, amino, alkylamino, dialkylamino, sulfate, or phosphate;

Each R_{13} is independently halo, halo alkyl, hydroxy, alkoxy, oxo, amino, alkylamino, dialkylamino, sulfate, or phosphate;

Each R_{14} is independently halo, halo alkyl, hydroxy, alkoxy, nitro, amino, alkylamino, dialkylamino, sulfate, or phosphate;

x is 1-100;

LG is halo, $-OSO_2R_{16}$, $B(OH)_2$, or



R_{16} is alkyl, halo alkyl or aryl optionally substituted with alkyl, halo or nitro.

25. (Original) A pharmaceutical composition comprising a compound of Formula (I) and a pharmaceutically acceptable carrier.